

In the Specification, please enter the **Abstract** as follows:

ABSTRACT

A safety vacuum cleaner including a measuring system for residual dust monitoring, including a housing having an air passage with an inlet, an outlet, and a flow cross section. A turbine is disposed within the air passage and is rotatable to move an air stream through the air passage, the air stream containing dust particles. The turbine is electrically grounded such that electrical charges associated with the particles are removed upon contact of the particles with the turbine. A filter element is disposed within the air passage, and at least one electrode is disposed within the air passage downstream of the turbine, the electrode shaped as a grid covering the flow cross section of the air passage. The electrode conducts an electrical current responsive to contact with uncharged particles and emits a measurement signal indicative of the amount of the particles in the air stream.